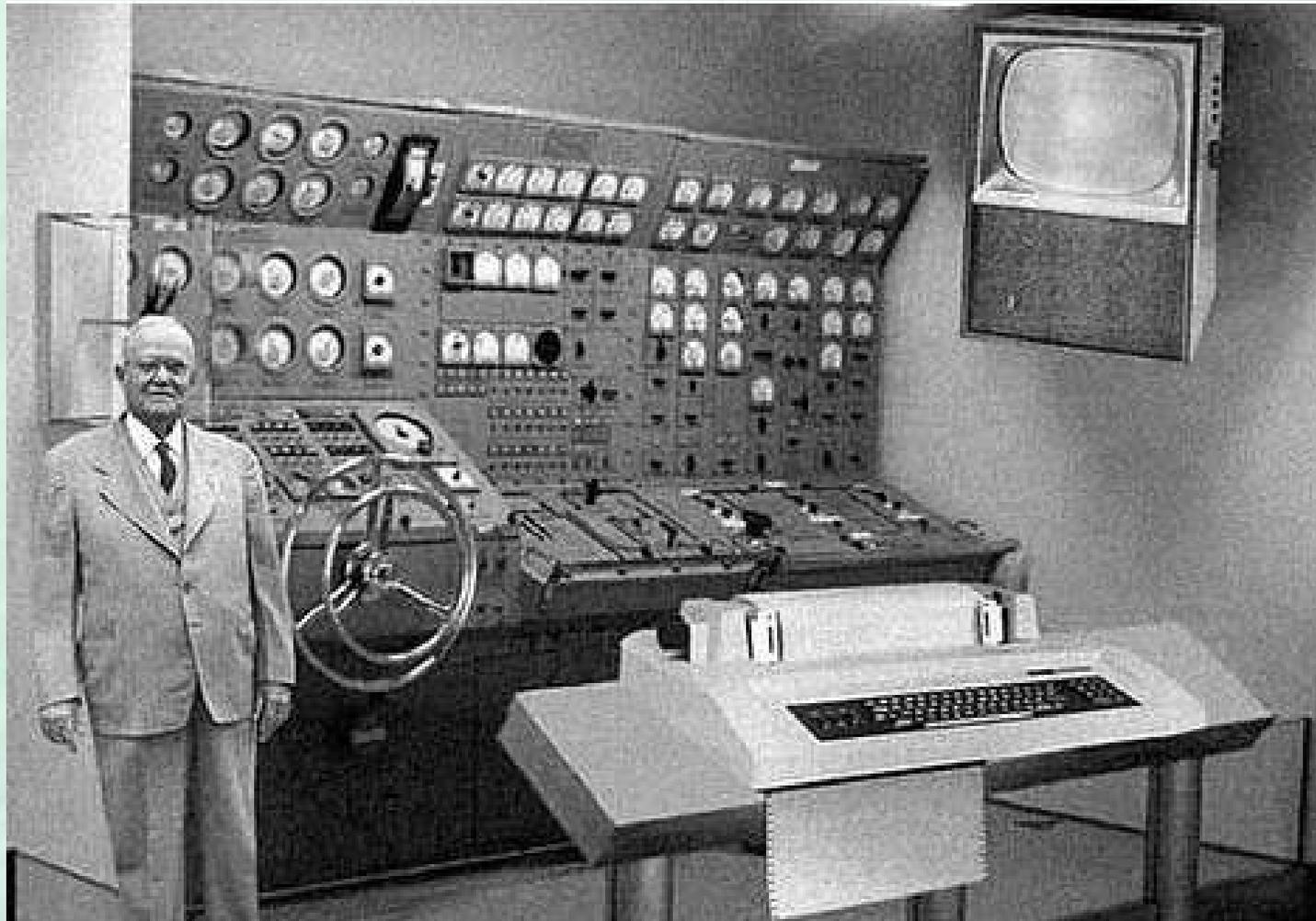


Integrated Data and Tools for Update 2013



Presentation Overview

- 💧 Vision for Water Plan technical analysis
- 💧 Update 2009 Accomplishments
 - Water Portfolios
 - Future scenarios
- 💧 Technical Initiatives for Update 2013



Vision for Water Plan Technical Analysis

- ◆ Accurately describe recent water management conditions (Water Portfolios)
- ◆ Develop multiple baseline future conditions (Scenarios)
- ◆ Identify alternative water management response packages (management strategies)
- ◆ Evaluate performance of strategies in terms of benefits, costs, and tradeoffs
- ◆ Support integrated regional planning
- ◆ Evaluate interaction between local, regional, and statewide water management

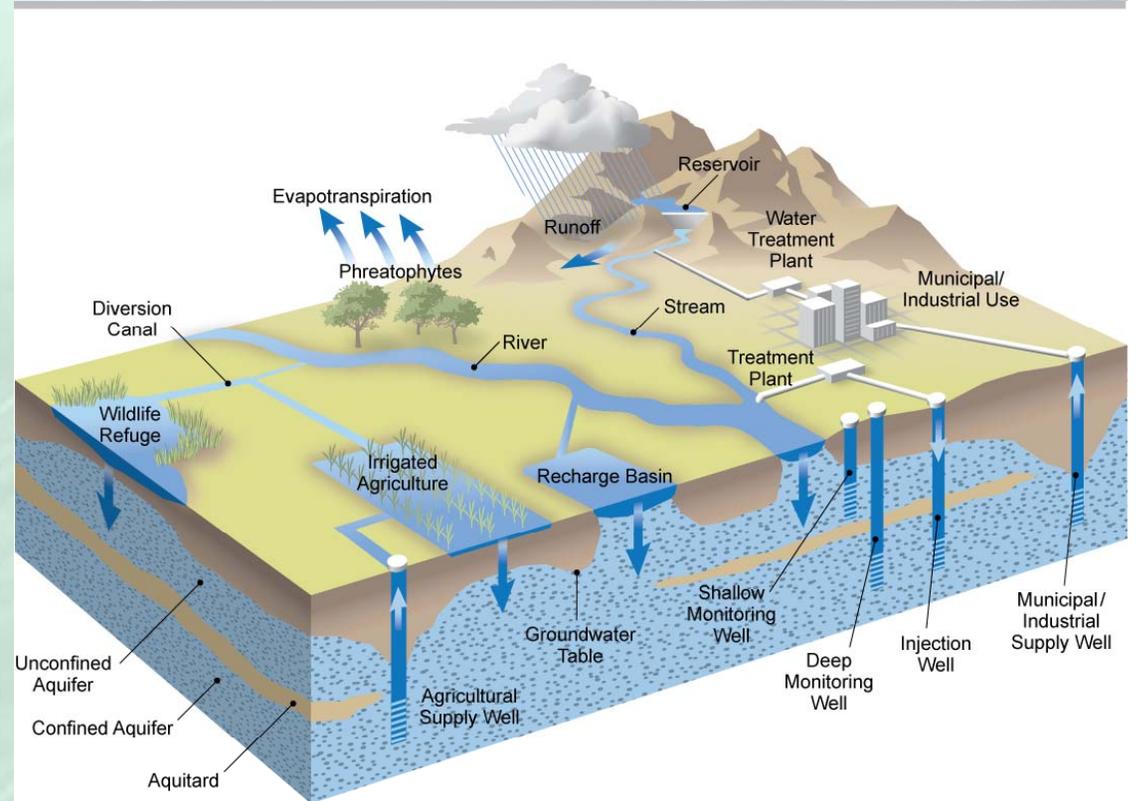


Technical
Accomplishments
for
Update 2009



Water Portfolios

Provide information about recent water management conditions



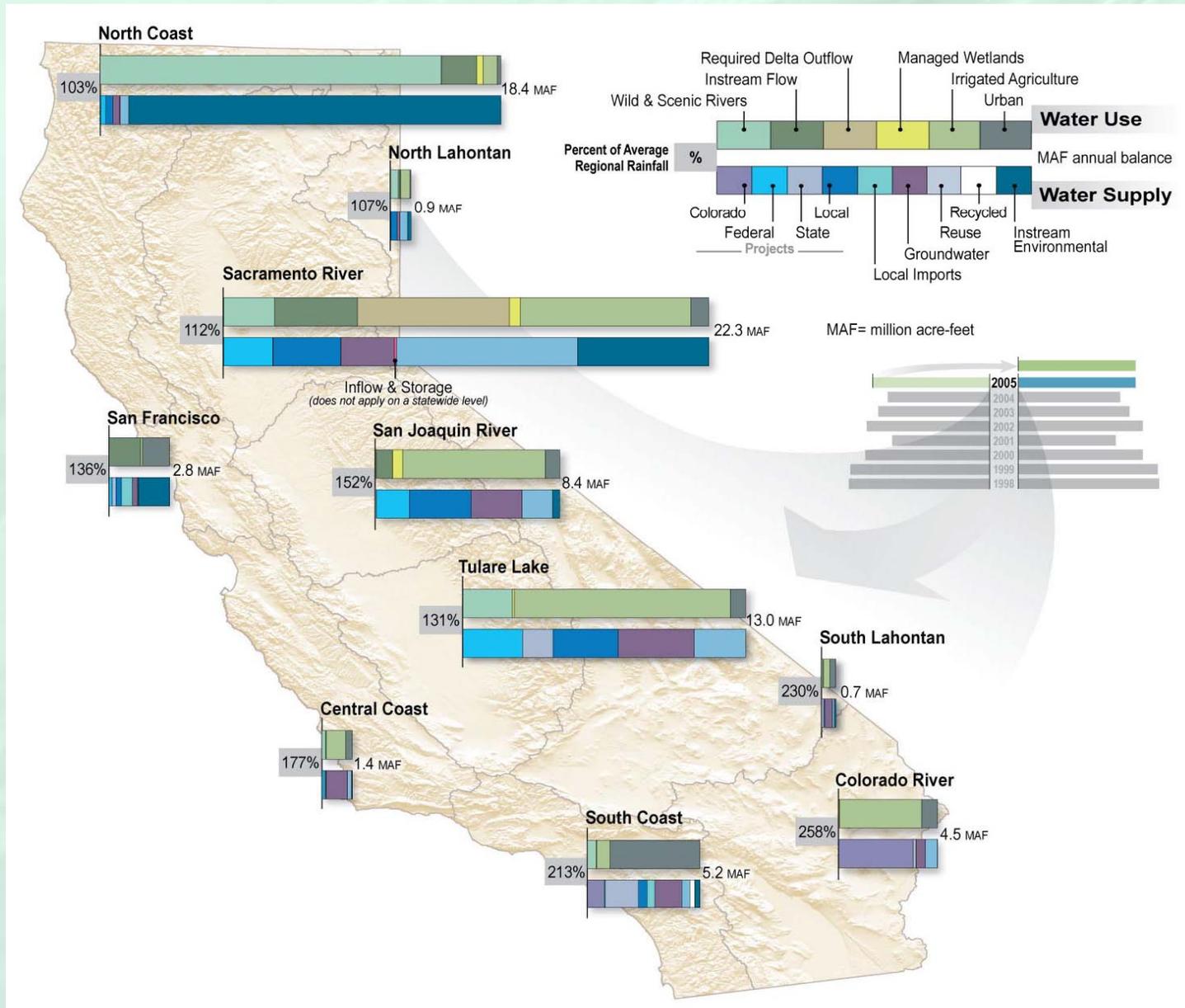
Water Portfolios

Accomplishments for Update 2009

- 💧 Annual data for 10 HRs and Mountain Counties for 1998-2005
 - Data available for DWR Planning Areas
 - Water balances for the Delta
- 💧 Shows spatial and temporal variability in water supplies and uses
- 💧 Water supplies and uses detailed by sector (Agriculture, Urban, Environment)



Water Balance by Region for WY 2005

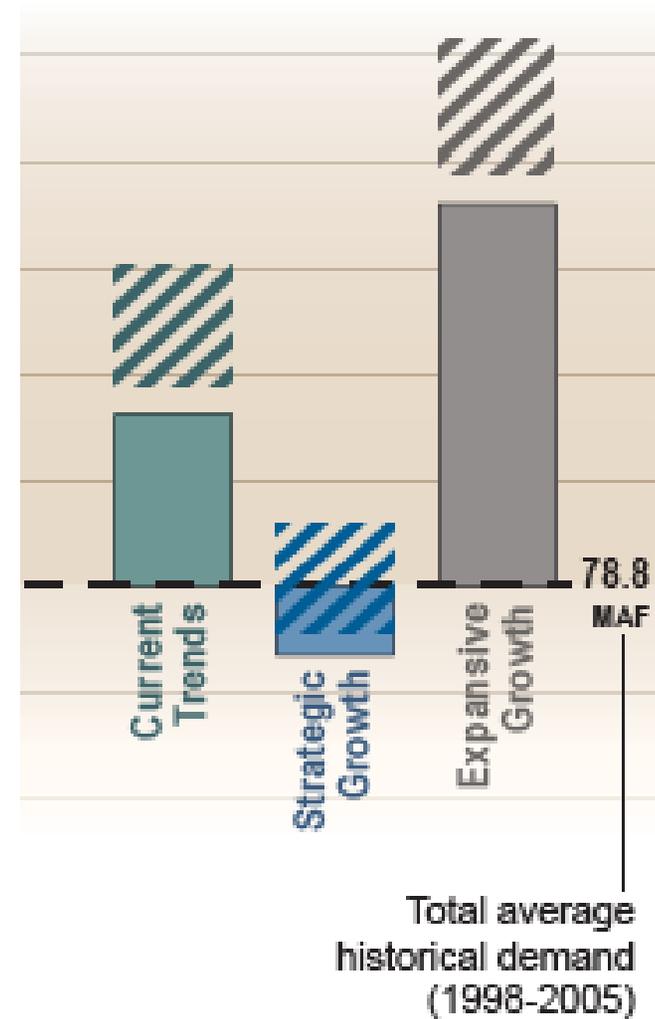


Future Baseline Scenarios

Provide alternative views of how population, land use, climate and other factors can affect future water management



Combined Water Demand Change by Scenario



Technical Outreach for Update 2009

- ◆ December 2007 – Scenario proposal
- ◆ April 2008 – Shared Vision Planning
- ◆ June 2008 – Refinement of scenario proposal
 - Climate change
 - Environmental water
 - Flood management
 - Water quality
- ◆ February 2009 – Review of preliminary demands
- ◆ June 2009 – Review of revised results & graphics
- ◆ July 2009 – Climate Change Technical Advisory Group
- ◆ October 2009 – Water management responses



Two Scales of Analysis for Update 2009

10 Hydrologic Regions

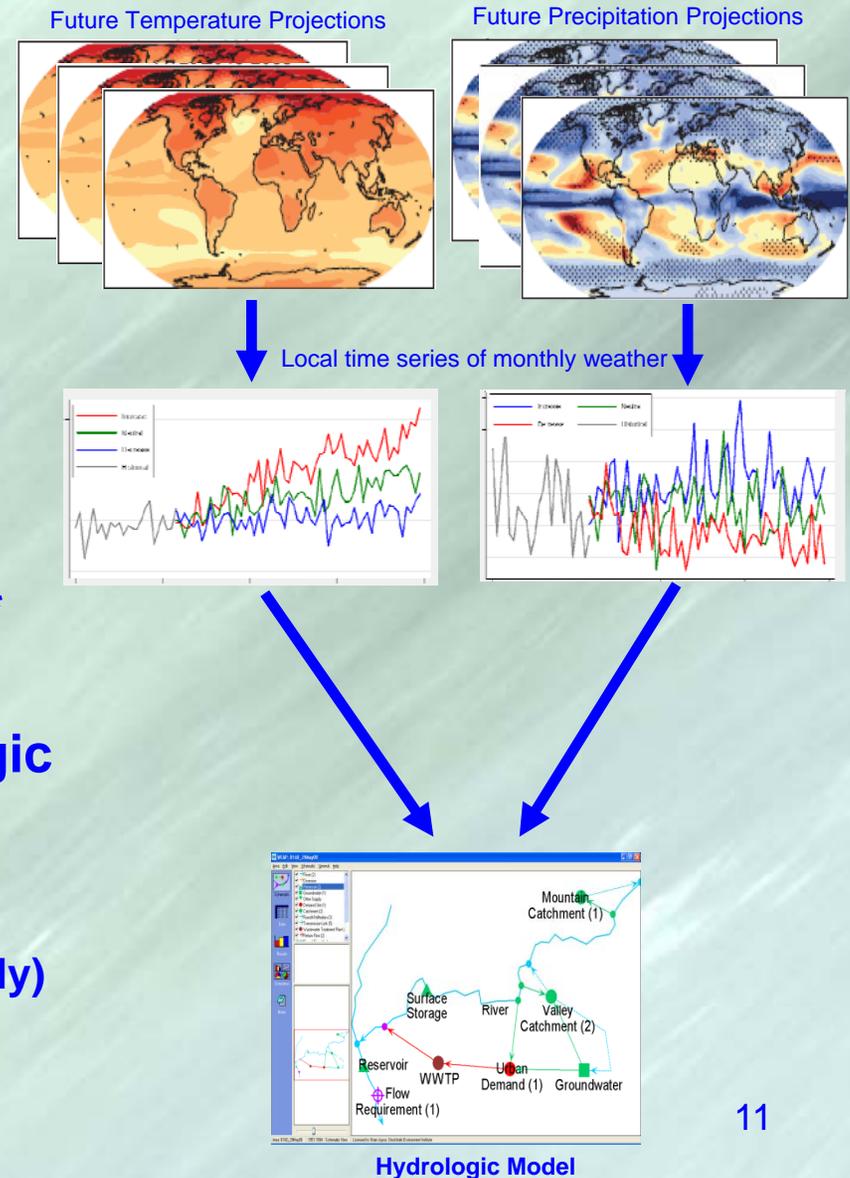


Sacramento River & San Joaquin River Hydrologic Regions

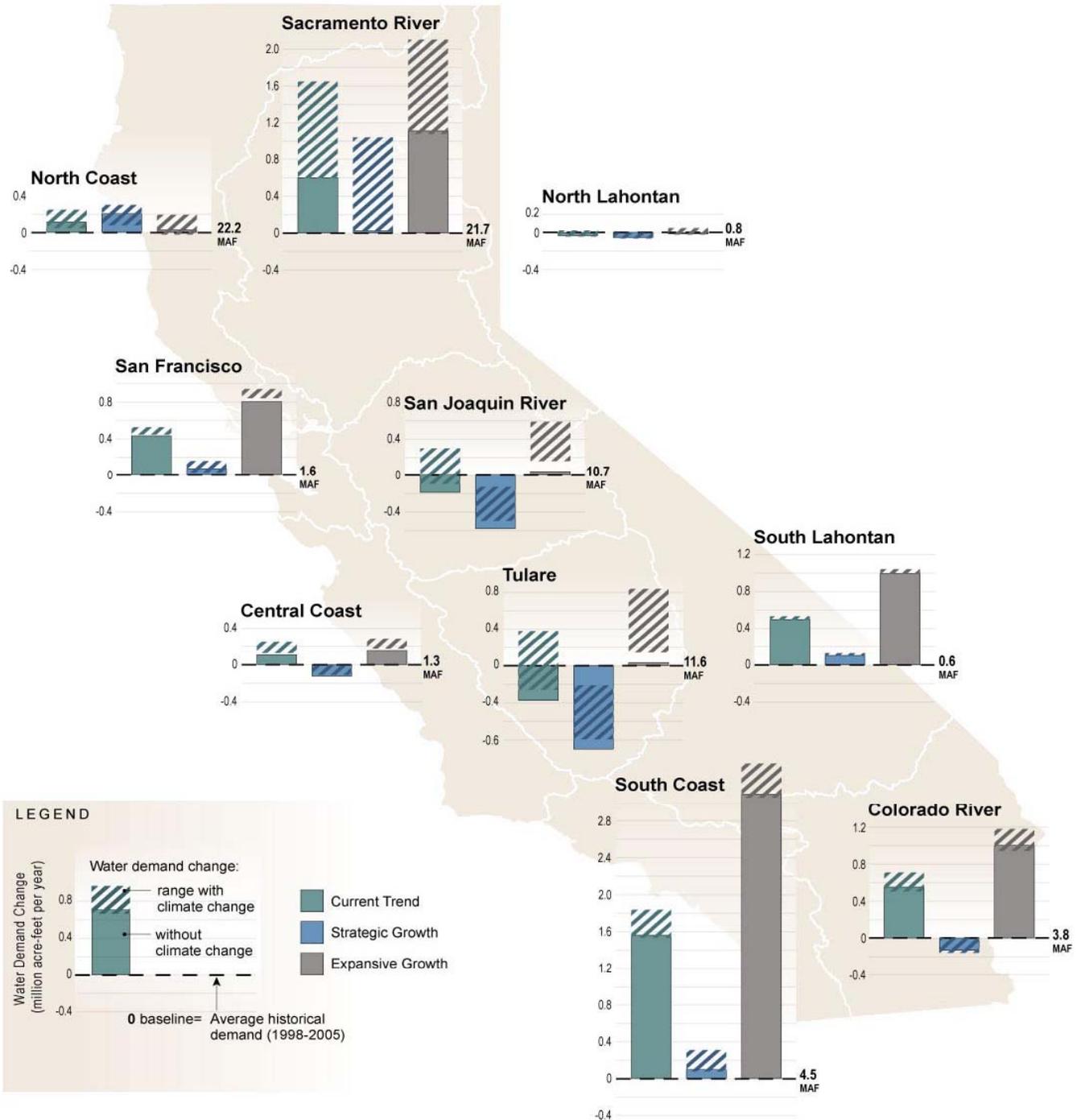


Analysis Considers Possible Climate Change Impacts

- **Global circulation models produce numerous projections of future temperature and precipitation patterns**
 - Six GCMs
 - Two global emissions scenarios
- **Statistical downscaling methods produce local weather sequences***
- **Weather sequences drive hydrologic models to calculate:**
 - irrigation demand (HR and PA)
 - hydrologic flows (PA analysis, only)



Regional Water Demand Changes by Scenario



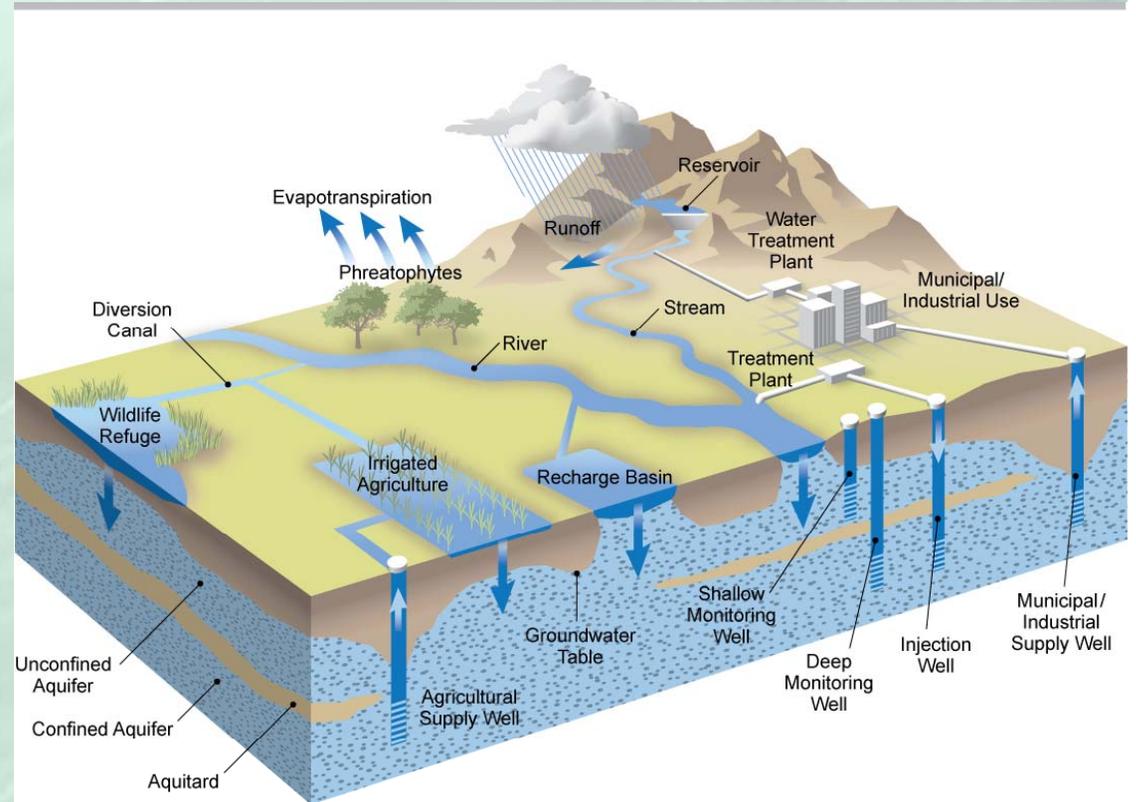
Statewide Water Analysis Network

Technical Initiatives for Update 2013



Water Portfolios

Provide information about recent water management conditions



Water Portfolios

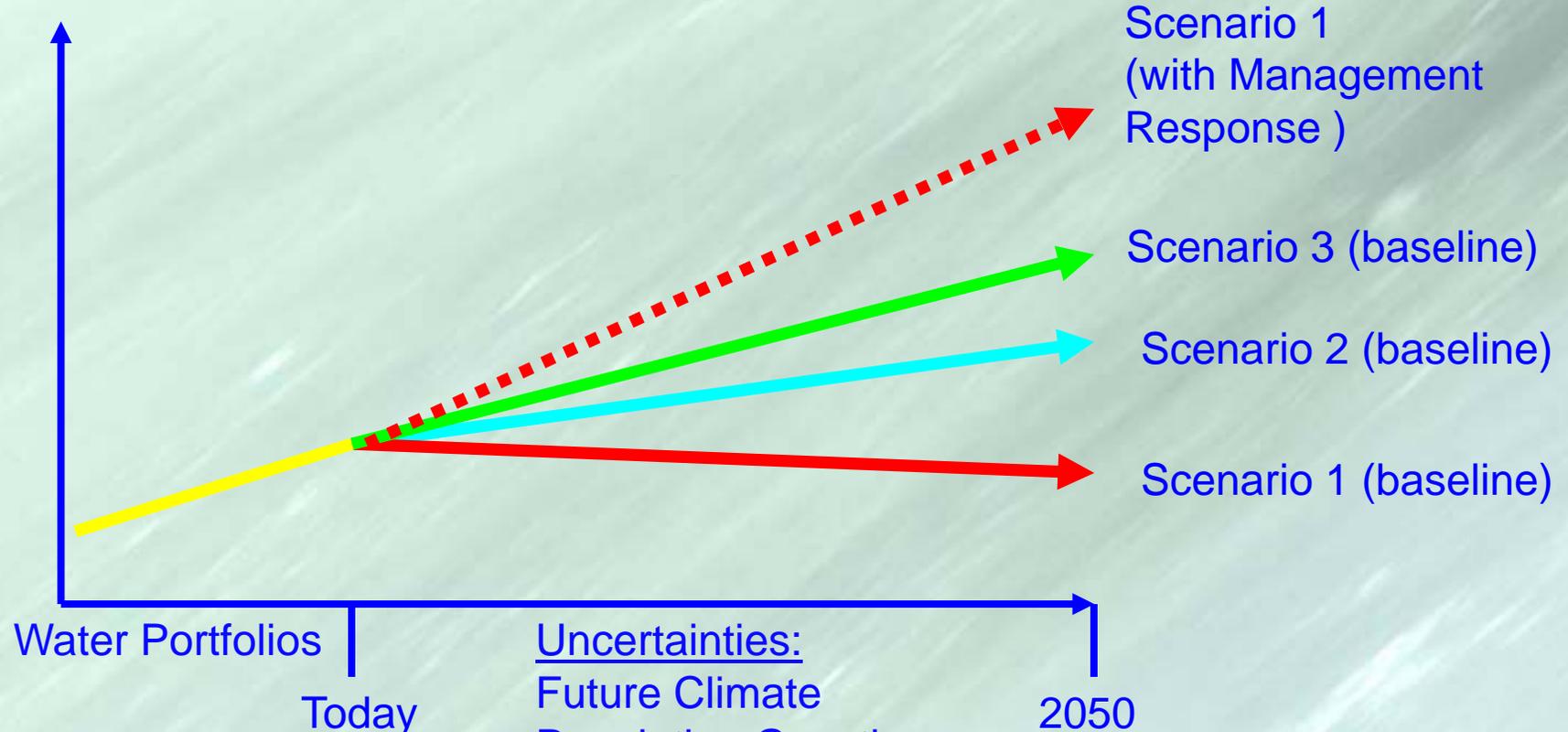
Initiatives for Update 2013

- Update Water Portfolios through year 2010
- Improve representation of groundwater use and change in storage
- Quantify tribal water use and supplies
- Improve quantification of environmental water uses
 - Coordination with Dept of Fish and Game



Scenarios and Water Management Responses

Indicators
(e.g. Supply Reliability)



Scenarios and Water Management Responses

Initiatives for Update 2013

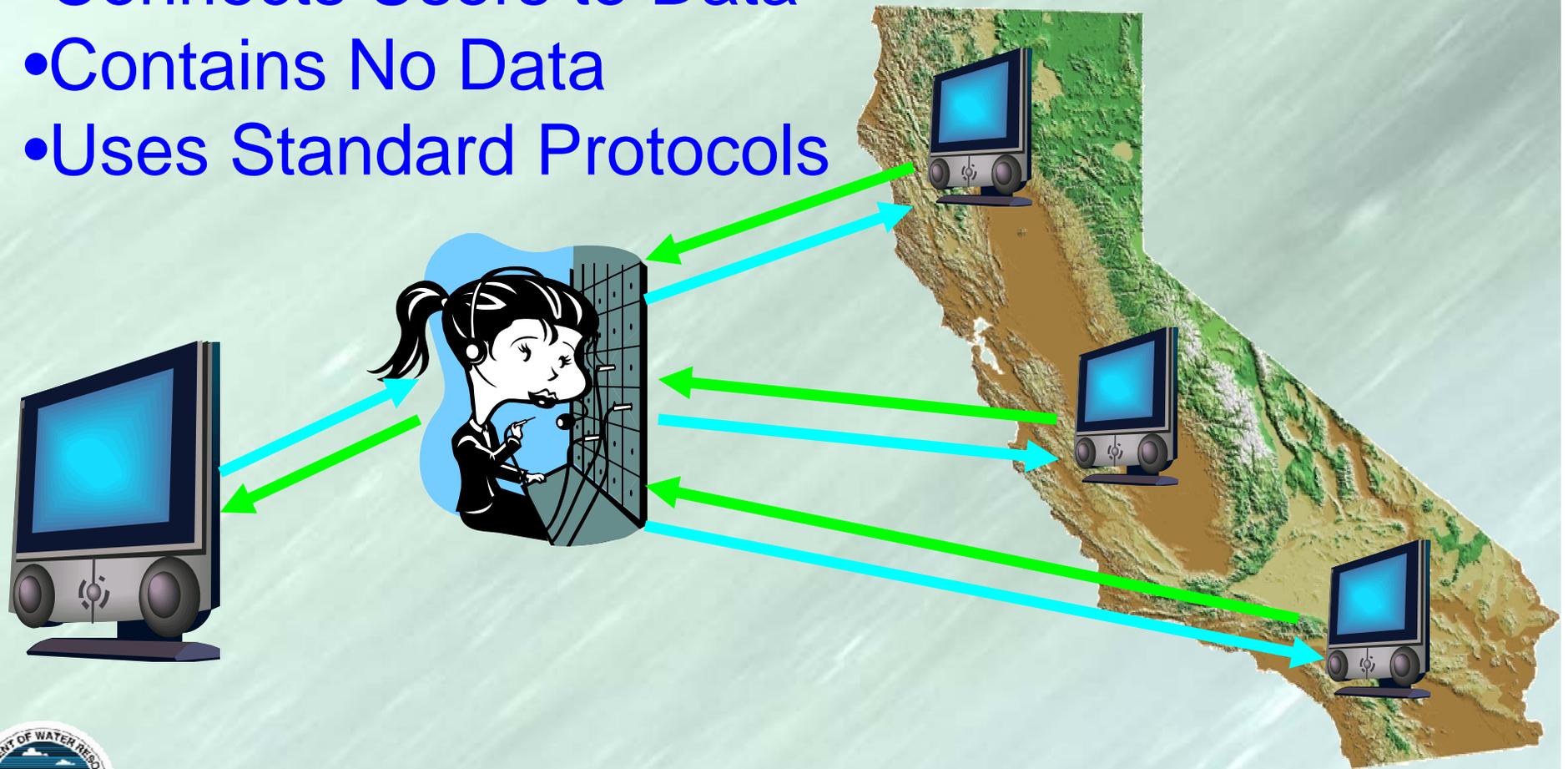
- ◆ Planning Area baseline scenarios for Sacramento and San Joaquin HRs
- ◆ Collaboration with Reclamation to include Tulare HR
- ◆ Identify and quantify regional water management responses
- ◆ Evaluate performance of strategies in terms of benefits, costs, and tradeoffs



Water PIE

Planning Information Exchange

- Connects Users to Data
- Contains No Data
- Uses Standard Protocols



IWRIS: Prototype for Water PIE

<http://www.water.ca.gov/iwris>

http://app1.iwris.water.ca.gov - IWRIS Viewer - Microsoft Internet Explorer

IWRIS Integrated Water Resources Information System
PUBLIC BETA

Account | Help | Comments | Logout

Layers Legend Quick Start

- Project Locator
- Water Districts
 - Federal Water Districts
 - Private Water Districts
 - State Water Districts
- Databases
- Models
- Land Use
- Water Budget
- Local Data
- Base Map
 - CA Assembly District
 - CA Senate District
 - US Congressional District
 - City
 - County
 - DWR Districts
 - DWR Hydrologic Regions
 - GW Basins (B118)
 - GWMP Locations
 - Highway
 - Lakes and Reservoirs
 - Rivers and Streams
- Images

Refresh Map Auto Refresh

Scale: 1:2,598,877
Active Layer: County

Select A County Default Theme

Map: 542671.64, 228216.23 -- Image: 539, 104 -- ScaleFactor: 2255.969609248436

Internet

start 2 Int... C:\dat... 2 Mic... 3 Mic... 2 Ad... Search Desktop 1:14 PM

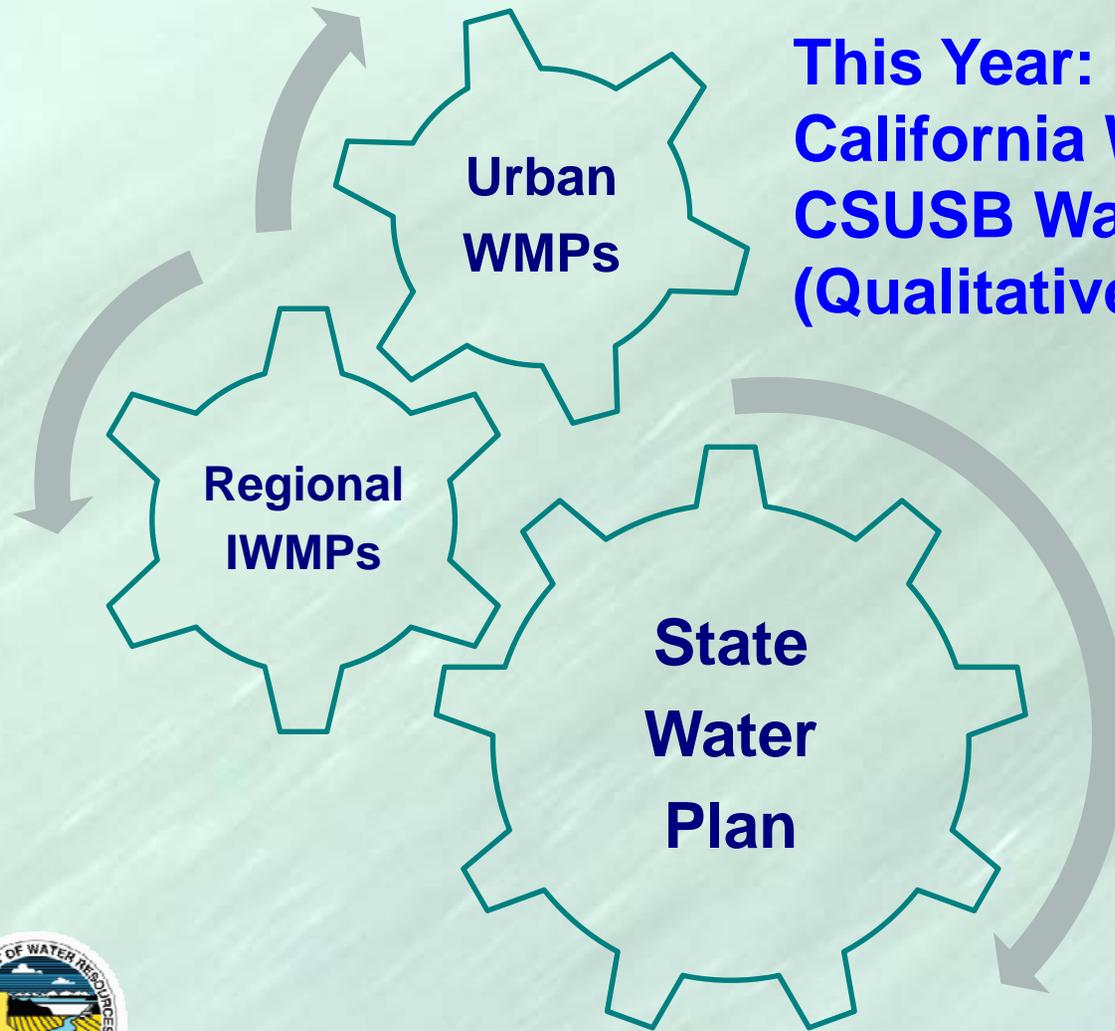


IWRIS

- 💧 Web based GIS application
- 💧 Allows access, integration, query, and visualization of multiple sets of data.
- 💧 Includes
 - DWR Water Data Library
 - California Data Exchange Center (CDEC)
 - USGS streamflow
 - Local Groundwater Assistance Grants (AB303)
 - Local agencies



Improving Linkages

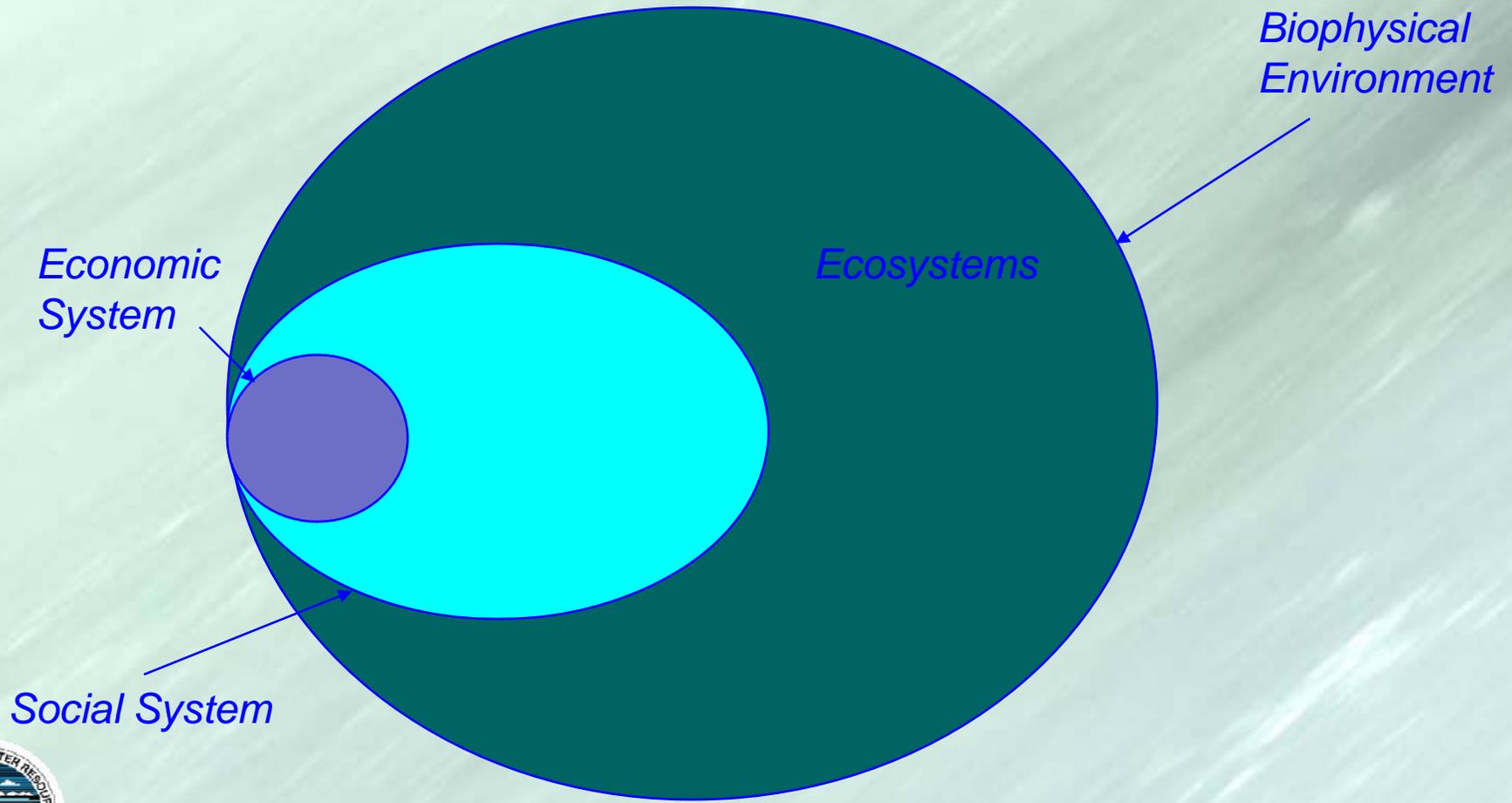


This Year: Pilot study w/ Southern California Water Committee and CSUSB Water Resources Institute (Qualitative Linkages)

For Update 2013: Pilot study of quantitative linkages

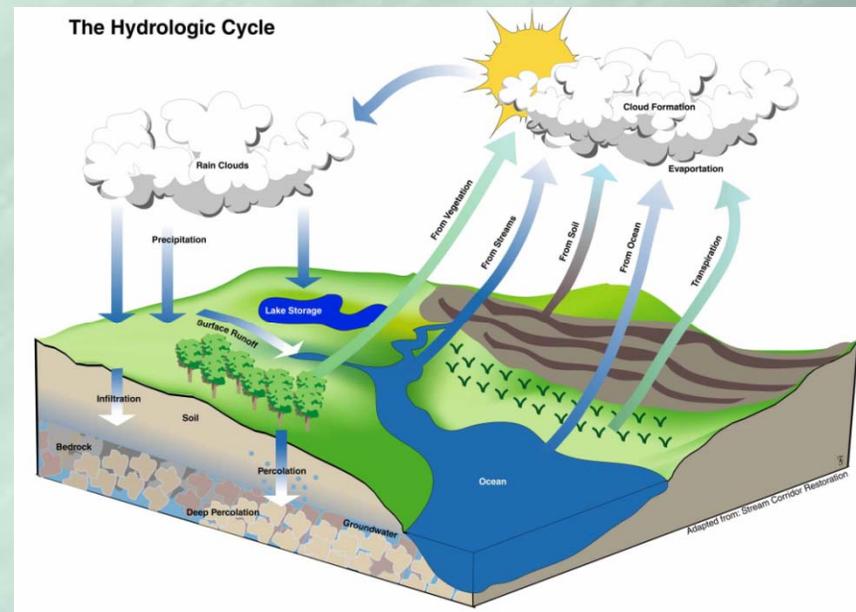


Developing Sustainability Indicators



Sustainable Water Resources Roundtable - Indicator Framework

- 💧 Water availability
- 💧 Water quality
- 💧 Human uses and health
- 💧 Environmental health
- 💧 Infrastructure and institutions



Summary

- ◆ Technical improvements to Water Portfolios and Scenarios are on-going
- ◆ A series of workshops conducted in 2010 will refine approaches for Update 2013
- ◆ New initiatives underway to:
 - Quantify management strategies and performance
 - Improve data integration and exchange
 - Quantify water resources sustainability



Contact Information

Rich Juricich

- juricich@water.ca.gov

- (916) 651-9225

- ◆ Water Plan Update 2009

<http://www.waterplan.water.ca.gov/cwpu2009>

- ◆ SWAN

<http://www.waterplan.water.ca.gov/swan>